

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for hemming two aluminum sheet metal panels together wherein one panel has a generally perpendicular flange with a width L from a bend line on said one panel and to a free edge of said one panel, comprising the steps of:

positioning an outer edge of the other panel adjacent said bend line;

bending said flange so that said flange overlies the outer edge of said other panel; and

thereafter compressing said flange against an outer peripheral portion of said other panel so that said outer peripheral portion of said other panel is sandwiched in between said flange and said one panel;

wherein said bending step further comprises the step of impacting a curvilinear prehemming tool against an outer edge of said flange, said prehemming tool has a curvilinear surface with a radius R_2 where R_2 is in the range of $2L > R_2 > 1/3 L$ and wherein said curvilinear surface of said prehemming tool maintains contact with the free edge of the flange throughout said bending step; and

wherein said generally perpendicular flange has an outer bending radius R in the range of $(1.0 \text{ mm} + t) > R > (0.2 \text{ mm} + t)$, where t = thickness of said one of said panels in millimeters.

2. (Canceled)

3. (Original) The invention as defined in claim 1 wherein said curvilinear surface of said prehemming tool, upon initial contact between said prehemming tool and the outer edge of said flange, the angle between the plane of said flange and a tangent of said prehemming tool is in the range of 55 to 70 degrees.

4. (Currently Amended) The invention as defined in claim ~~[[2]]~~ 1 wherein said curvilinear surface of said prehemming tool, upon initial contact between said prehemming tool and the outer edge of said flange, the angle between the plane of said flange and a tangent of said prehemming tool is in the range of 55 to 70 degrees.

5. (New) A method for hemming two aluminum sheet metal panels together wherein one panel has a generally perpendicular flange with a width L from a bend line on said one panel and to a free edge of said one panel, comprising the steps of:

positioning an outer edge of the other panel adjacent said bend line;

bending said flange so that said flange overlies the outer edge of said other panel; and

thereafter compressing said flange against an outer peripheral portion of said other panel so that said outer peripheral portion of said other panel is sandwiched in between said flange and said one panel;

wherein said bending step further comprises the step of impacting a curvilinear prehemming tool against an outer edge of said flange, said prehemming tool has a curvilinear surface with a radius R_2 where R_2 is in the range of $2L > R_2 > 1/3 L$ and wherein said curvilinear surface of said prehemming tool maintains contact with the free edge of the flange throughout said bending step; and

wherein said curvilinear surface of said prehemming tool, upon initial contact between said prehemming tool and the outer edge of said flange, the angle between the plane of said flange and a tangent of said prehemming tool is in the range of 55 to 70 degrees.